



42  
J.30.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney/Docket No. 040849/0187

Applicant: Yu WANG et al.

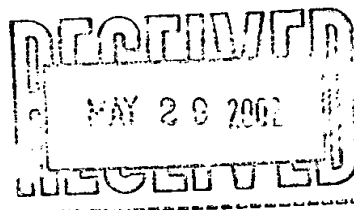
Title: TOMOSYNTHESIS X-RAY MAMMOGRAM SYSTEM AND METHOD WITH  
AUTOMATIC DRIVE SYSTEM

Appl. No.: 10/063,357

Filing Date: April 15, 2002

Examiner: Unassigned

Art Unit: 2882



RECEIVED  
MAY - 3 2002  
TECHNOLOGY CENTER 2800

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56 and §1.97**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Submitted herewith on a modified PTO Form SB/08B is a listing of documents known to applicants in order to comply with applicants' duty of disclosure pursuant to 37 CFR 1.56. A copy of each listed document is being submitted to comply with the provisions of 37 CFR §§1.97-1.98.

The submission of any documents herewith, which is not a statutory bar, is not intended as an admission that such documents constitute prior art against the claims of the present application or that such documents are considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a prima facie prior art reference against the claims of the present application.

**TIMING AND RELEVANCE OF THE DISCLOSURE**

The instant Information Disclosure Statement is filed in accordance with 37 CFR §1.97(b), before the mailing of a first Office Action on its merits, no fee is required in connection with its filing. However, should the requirements of section 1.97(b) not be met, then the Commissioner is hereby authorized to charge any necessary fees in connection with this statement under §1.97(c) to Deposit Account No. 19-0741.

Applicants respectfully request that the listed documents be considered by the Examiner and be made of record in the present application and that an initialed copy of PTO Form SB/08B be returned in accordance with MPEP §609.

Respectfully submitted,

5/1/02  
Date

Leon Radomsky  
Leon Radomsky  
Reg. No. 43,445

FOLEY & LARDNER  
3000 K Street, N.W., Suite 500  
Washington, D.C. 20007-5109  
Phone: (202) 672-5300  
Fax: (202) 672-5399

The Commissioner is hereby authorized to charge any necessary fees in connection with this Statement to Deposit Account No. 19-0741.

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitution for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Date Submitted: <u>May 1, 2002</u> (use as many sheets as necessary)				<b>Complete if Known</b> Application Number: 10/063,357 Filing Date: April 15, 2002 First Named Inventor: Yu WANG et al. Group Art Unit: 2882 Examiner Name: Unassigned Attorney Docket Number: 040849/0187	
Sheet	1	of	3		

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	A1	5,474,072		Shmulewitz	12/12/1995	
	A2	5,983,123		Shmulewitz	11/9/1999	
	A3	5,630,426		Eggers et al.	5/20/1997	
	A4	5,479,927		Shmulewitz	1/2/1996	
	A5	5,938,613		Shmulewitz	8/17/1999	
	A6	5,851,180		Crosby et al.	12/22/1998	
	A7	5,840,022		Richter	11/24/1998	
	A8	5,776,062		Nields	7/7/1998	
	A9	5,660,185		Shmulewitz et al.	8/26/1997	
	A10	5,664,573		Shmulewitz	9/9/1997	
	A11	5,820,552		Crosby et al.	10/13/1998	
	A12	5,603,326		Richter	2/18/1997	
	A13	5,640,956		Getzinger et al.	6/24/1997	
	A14	5,735,264		Siczek et al.	4/7/1998	
	A15	5,803,082		Stapleton et al.	9/8/1998	
	A16	5,828,774		Wang	10/27/1998	
	A17	4,407,163		Hundt et al.	10/4/1983	
	A18	4,543,959		Sepponen	10/1/1985	
	A19	4,509,368		Whitting et al.	4/9/1985	
	A20	4,936,291		Forssmann et al.	6/26/1990	
	A21	5,361,767		Yukov	11/8/1994	
	A22	5,855,554		Schneider et al.	1/5/1999	
	A23	5,999,639		Rogers et al.	12/7/1999	
	A24	5,984,870		Giger et al.	11/16/1999	
	A25	3,971,950		Evans et al.	7/27/1976	
	A26	6,180,943		Lange	1/30/2001	
	A27	5,872,828		Niklason et al.	2/16/1999	
	A28	5,810,742		Pearlman	9/22/1998	

RECEIVED  
 MAY - 3 2002  
 TECHNOLOGY CENTER 2800

[illegible]

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, D.C. 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, D.C. 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Date Submitted: <u>May 1, 2002</u> (use as many sheets as necessary)		Application Number	10/063,357
		Filing Date	April 15, 2002
		First Named Inventor	Yu WANG et al.
		Group Art Unit	2882
		Examiner Name	Unassigned
Sheet 2 of 3	Attorney Docket Number	040849/0187	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A29	A. THOMAS STAVROS et al.: "Solid Breast Nodules: Use of Sonography to Distinguish between Benign and Malignant Lesions," Radiology, July 1995, pages 123-134, Volume 196, Number 1, Englewood, CO	
	A30	THOMAS M. KOLB et al.: "Occult Cancer in Women with Dense Breasts: Detection with Screening US-Diagnostic Yield and Tumor Characteristics," Radiology, April 1998, pages 191-199, Volume 207, Number 1	
	A31	DANIEL B. KOPANS et al.: "Development and Clinical Evaluation of Tomosynthesis for Digital Mammography; Technical and Cost Proposal," Clinical Translational Research Award, Department of Defense Breast Cancer Research Program, November 19, 1997, pages 1-54	
	A32	NICO KARSSSEMEIJER: "Computer-Aided Detection and Interpretation in Mammography," pages 243-252	
	A33	NICO KARSSSEMEIJER et al.: "Detection of Stellate Distortions in Mammograms," IEEE Transactions on Medical Imaging, October 1996, pages 611-619, Vol. 15, No. 5, IEEE	
	A34	IOANNA CHRISTOYIANNI et al.: "Fast Detection of Masses in Computer-Aided Mammography," IEEE Signal Processing Magazine, January 2000, pages 54-64	
	A35	CELIA BYRNE et al.: "Mammographic Features and Breast Cancer Risk: Effects with Time, Age, and Menopause Status," Journal of the National Cancer Institute, November 1, 1995, pages 1622-1629, Vol. 87, No. 21	
	A36	MILAN SONKA et al.: "Computer-Aided Diagnosis in Mammography," Handbook of Medical Imaging - Volume 2. Medical Image Processing and Analysis, pages 915-958, Spie Press, Bellingham, Washington	
	A37	MATTHEW A. KUPINSKI et al.: "Feature Selection and Classifiers for the Computerized Detection of Mass Lesions in Digital Mammography," IEEE Int. Conf. On Neural Nets, 1997, pages 2460-2463, IEEE	
	A38	SHUK-MEI LAI et al.: "On Techniques for Detecting Circumscribed Masses in Mammograms," IEEE Transactions on Medical Imaging, December 1989, pages 377-386, Vol. 8, No. 4, IEEE	
	A39	MARIOS A. GAVRIELIDES et al.: "Segmentation of Suspicious Clustered Microcalcifications in Mammograms," Med. Phys., January 2000, pages 13-22, Vol. 27, No.1, Am. Assoc. Phys. Med.	
	A40	WEI ZHANG et al.: "Optimally Weighted Wavelet Transform Based on Supervised Training for Detection of Microcalcifications in Digital Mammograms," Med. Phys. June 1998, pages 949-956, Vol. 25, No. 6, Am. Assoc. Phys. Med.	
	A41	BERKMAN SAHINER et al.: "Computerized Characterization of Masses on Mammograms: The Rubber Band Straightening Transform and Texture Analysis," Med. Phys. April 1998, pages 516-526, Vol. 25, No. 4, Am. Assoc. Phys. Med.	
	A42	ZHIMIN HUO et al.: "Computerized Analysis of Mammographic Parenchymal Patterns for Breast Cancer Risk Assessment: Feature Selection," Med. Phys., January 2000, pages 4-12, Vol. 27, No. 1, Am. Assoc. Phys. Med.	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Date Submitted: <u>May 1, 2002</u> (use as many sheets as necessary)		Application Number	10/063,357
		Filing Date	April 15, 2002
		First Named Inventor	Yu WANG et al.
		Group Art Unit	2882
		Examiner Name	Unassigned
Sheet 3 of 3	Attorney Docket Number	040849/0187	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A43	DATONG WEI et al.: "Classification of Mass and Normal Breast Tissue on Digital Mammograms: Multiresolution Texture Analysis," Med. Phys. September 1995, pages 1501-1513, Vol. 22, No. 9, Am. Assoc. Phys. Med.	
	A44	JOHN J. HEINE et al.: "Multiresolution Statistical Analysis of High-Resolution Digital Mammograms," IEEE Transactions on Medical Imaging, October 1997, pages 503-515, Vol. 16, No. 5, IEEE	
	A45	WOUTER J. H. VELDKAMP et al.: "Normalization of Local Contrast in Mammograms," IEEE Transaction on Medical Imaging, July 2000, pages 731-738, Vol. 19, No. 7, IEEE	
	A46	WEI QIAN et al.: "Tree Structured Wavelet Transform Segmentation of Microcalcifications in Digital Mammography," Med. Phys., August 1995, pages 1247-1254, Vol. 22, No. 8, Am. Assoc. Phys. Med.	
J	A47	HIGHNAM et al.: "Mammographic Image Analysis," 1999, pages 39-53, 191-223, 288, Kluwer Academic Publishers	
	A48	DUDA et al.: "Pattern Classification," 2001, pages 161-199	
	A49	LAURA M. YARUSSO et al.: "Application of Computer-Aided Diagnosis to Full-Field Digital Mammography," IWDM 2000, 5 <sup>th</sup> International Workshop on Digital Mammography, pages 421-246, Medical Physics Publishing, Madison, Wisconsin	
	A50	LIHUA LI et al.: "Hybrid Classification Method for False-Positive Reduction in CAD for Mass Detection," IWDM 2000, 5 <sup>th</sup> International Workshop on Digital Mammography, pages 272-279, Medical Physics Publishing, Madison, Wisconsin	
	A51	ROBERT P. VELTHUIZEN: "Computer Description of Mammographic Masses," IWDM 2000, 5 <sup>th</sup> International Workshop on Digital Mammography, pages 395-401, Medical Physics Publishing, Madison, Wisconsin	
	A52	ARMANDO BAZZANI et al.: "Automatic Detection of Clustered Microcalcifications Using a Combined Method and an SVM Classifier," IWDM 2000, 5 <sup>th</sup> International Workshop on Digital Mammography, pages 161-167, Medical Physics Publishing, Madison, Wisconsin	
	A53	YOSHIHIRO HAGIHARA et al.: "Accurate Detection of Microcalcifications on Mammograms by Improvement of Morphological Processing," IWDM 2000, 5 <sup>th</sup> International Workshop on Digital Mammography, pages 193-197, Medical Physics Publishing, Madison, Wisconsin	
	A54	M. LANYI: "Diagnosis and Differential Diagnosis of Microcalcifications," Ductal Carcinomas of Varying Histologic Types, pages 44, 60, 61, 86, 95, 98-101, 110, 118-120, and 192, 1987, Springer-Verlag	
	A55	DANIEL B. KOPANS: "The Positive Predictive Value of Mammography," AJR, March 1992, pages 521-526, Vol. 158, American Roentgen Ray Society	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.